

REMARKS

Claims 1-6, 13, 14, and 16 are pending. No claims are amended in this communication. With respect to nonstatutory double patenting rejections, the Applicant is prepared to promptly file a Terminal Disclaimer for the present claims in the case that the Examiner finds that the claims are allowable. Claims 6, 13, and 16 are believed to be allowable if a Terminal Disclaimer were to be filed; clarification on this point is requested. With respect to dependent claims 6 and 13, it is noted that, when a dependent claim is allowable except for dependence upon a rejected independent claim, the Examiner should note that fact and issue an objection to the claim on the grounds that it depends from an rejected base claim, see MPEP 608.01(n)V.

The Examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,421,727 (the Stevens patent), and claims 2-5 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Stevens patent. It is respectfully submitted, however, that the Stevens patent does not teach or suggest all of the presently claimed limitations. Therefore, the Examiner is requested to withdraw these rejections.

The Stevens patent does not teach a device configured wherein: (a) the microwave energy is applied at a frequency and power to preferentially heat caries (claims 1-5); or (b) the claimed amounts/types of energy, i.e., less than 10 W of microwave energy delivered to the antenna at frequencies between 1 GHz to 50 GHz (claim 14).

The Examiner has argued that the devices of the Stevens patent, including the embodiments of Figures 2-7 therein, are capable of operating at a variety of different power levels and are capable of heating caries, and refers to Col. 3, line 38, to Col. 4 line 4 to support this position. But the cited lines refer only to the embodiments of Figures 2 and 3, which are not

comparable to the presently claimed invention because they require an external electrode fixed to the patient to generate heat and are thus not a hand-held device. For example, source 50 in Col. 3 line 38, is taught only with reference to the embodiments of Figures 2 and 3, and does not refer to other figures. Therefore, since the prior art does not supply all of the claimed elements, the Examiner is requested to withdraw the rejections of the claims.

Further, the present claims include a controller for applying energy: (a) at a frequency and power to preferentially heat caries (claims 1-5); or (b) at certain amounts/types of energy, i.e., less than 10 W of microwave energy delivered to the antenna at frequencies between 1 GHz to 50 GHz (claim 14). The Stevens patent does not teach that the devices set forth therein, e.g., Figures 4 or 7, may include such a controller. A review of the Stevens patent suggests that there is no teaching or suggestion of a hand-held device having a controller that is operable to control handheld devices as presently claimed. Since the prior art lacks all of the claimed elements, there can be no 35 U.S.C. § 102(b) or § 103(a) rejection.

Further, a controller requires structural components for the control of electromagnetic characteristics of the administered microwaves so as to preferentially heat caries or administer the appropriate energy to do so, and therefore is a structural limitation, and not a mere new use of an old device. As set forth in the present Application, e.g., page 6, the parameters for controlling the microwaves to preferentially heat caries are not trivial and are expected to require a carefully designed control system for their implementation.


Further, it would not have been obvious to make a device having a controller that controls the device within the presently claimed parameters, e.g., to preferentially heat caries (claims 1-5) or to administer the appropriate energy (claims 1-5, 14). The present Application, e.g., see page 6,

especially lines 1-5, describes the complex calculations and research required to establish the operating parameters to make the presently claimed device capable of preferentially heating caries instead of a tooth. In contrast, a person of ordinary skill, after reading the Stevens patent, would not be able to make the presently claimed invention because they would have no understanding of how to configure the devices of the Stevens patent to operate within ranges that are presently claimed. Indeed, a review of the Stevens patent shows that there is apparently no teaching or suggestion of how to make the presently claimed device and controller for operation within the claimed ranges.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'BP', with a long horizontal line extending to the right.

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